

# Knowing when the earth moves

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## Science Entrepreneur to receive award for inventing ground motion detection technology

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Predicting earthquakes has more in common with making pottery than many people would think.

 ENLARGE PHOTO



David Smith/for the TELEGRAPH-JOURNAL

Lee Danisch, president of Measurand Shape Advantage, will receive an award of distinction for inventing the patented ShapeAccelArray technology, which detects ground motion. ShapeAccelArray uses MEMS (micro-machined electro mechanical systems) chips attached to 30-metre cables, which are strung down electrical conduit pipes in the ground.

Lee Danisch, who has done both, will receive the \$25,000 Dave Mitchell Award of Distinction from the Ernest C. Manning Awards Foundation in Alberta on Friday for inventing the patented ShapeAccelArray technology to detect ground motion.

Measurand Inc., which he and his wife Christine started in 1993, introduced this system two years ago to monitor landslide zones near highways, bridges, railroads and construction sites around the world.

Japanese scientists use ShapeAccelArray for earthquake research. Measurand will install this technology at the Mactaquac Dam for NB Power.

"There are lots of landslides around," Danisch said Friday in an interview from Measurand's premises at Hanwell south of Fredericton.

Danisch began his career in technology in Boston, where he earned a masters degree in electrical engineering at the Massachusetts Institute of Technology, but took a detour through pottery.

"I studied, officially, electrical engineering, but I really did more brain research," he said. Pushing 30 in 1973, he left it behind and set out for Newfoundland.

"I was mainly looking for a rural area to live," the 64-year-old said Friday. "I really liked the look of New Brunswick and settled in the Sussex area."

He and Peter Powning ran the Jaberwock Gallery pottery store.

Around 1981 he began consulting in technology.

By this time he had met Christine, a native of Saint John, in Fredericton where he took part in research on semi-conductors.

"We were both in the craft scene at one point," he said. She still makes and sells jewelry.

He worked at Process Technology, which employed as many as 200 people in Oromocto before it went bankrupt around 1990.

He worked at the New Brunswick Research and Productivity Council. With two young children to support, he put pottery behind him.

He enjoyed technology, but he wanted to work for himself. He still uses the business skills he learned as a potter.

Company vice-president Scott Thompson has been with Measurand from the start. "For awhile it was two of us, working down in my basement," Danisch said.

The Canadian Space Agency provided funding to develop products in the early years. In 1995 or 1996 the company developed ShapeTape, using fibre-optics to track human body movements on a computer screens. The company uses this in its ShapeWrap and ShapeHand products.

ShapeAccelArray uses MEMS (micro-machined electro mechanical systems) chips attached to 30-metre cables less than an inch thick, which are strung down electrical conduit pipes in the ground.

They have sensors every 30 centimetres, powered by a solar panel charging a battery. They can be programed to turn on every day, or every few hours, to send their precise locations to a computer in an engineer's office using wireless technology.

Today, Measurand employs 14 people, including Danisch's son Jonathan. They design, assemble and install Measurand products.

The Danisches today live at Long's Creek on the Mactaquac Headpond. Their daughter Charlotte is completing a teaching degree in Halifax.